

10/630038

CJ C

Certification of Mailing or Transmission

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with The United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 19, 2008.

Debra M. Szumowski
Name

Signature

DOCKET: CU-3315

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

APPLICANT: Dong Hae SUH et al)
PATENT NO: 6,947,112) Group Art Unit: 2871
ISSUE DATE: September 20, 2005) Examiner:
TITLE: LIQUID CRYSTAL DISPLAY) Chowdhury, T.R.
SERIAL NO: 10/630,038 filed July 30, 2003)

Certificate

FEB 25 2008

of Correction

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION
DUE TO PATENT OFFICE MISTAKE (37 CFR 1.322(a))

Dear Sir:

This is a request for Certificate of Correction for the above referenced patent.

There appears an error on the title page of the patent wherein the serial number of the first Korean priority application (Korean Patent Application No. 10-2002-0045641 filed August 1, 2002) is incorrect, as shown in red on the attached copy.

To provide support of the serial number of the Korean priority application, the following materials are also enclosed herewith:

1. Copy of the Combined Declaration & Power of Attorney in which the serial number of the Korean priority applications are indicated on page 3 thereof.
2. Copy of the official filing receipt with indication of Korean priority application.
3. Copy of title page of certified copy of Korean priority application No. 10-2002-45641 filed August 1, 2002 as submitted on July 30, 2003.

RECEIVED-USPTO
Patent Publication

FEB 25 2008

Attached is Form PTO/SB/44, which is believed to be suitable for printing.

It is believed that no fee is necessary for this Certificate of Correction, as the error occurred through no fault of the applicant.

In addition, it is believed that the enclosed materials unequivocally support the undersigned's assertion of the correct serial number of the first Korean priority application.

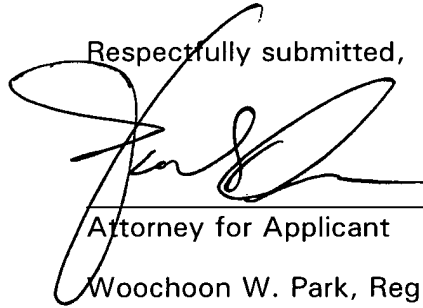
It is respectfully requested that a Certificate of Correction be issued as expeditiously as possible.

February 19, 2008

Date

/32

Respectfully submitted,



Attorney for Applicant

Woochoon W. Park, Reg. 55523
c/o Ladas & Parry
224 South Michigan Avenue
Chicago, Illinois 60604
(312) 427-1300

RECEIVED-USPTO
Patent Publication

FEB 25 2008

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO: 6,947,112
DATED: September 20, 2005
INVENTOR(S): Dong Hae SUH et al

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page, Item (30)	delete "10-2003-0045641" and insert --10-2002-0045641--
-----------------------	--

MAILING ADDRESS OF SENDER:

Ladas & Parry
224 South Michigan Avenue
Chicago, Illinois 60604

RECEIVED-USPTO
Patent Publication
PATENT NO. 6,947,112
FEB 25 2008

No. of additional copies





US006947112B2

(12) **United States Patent**
Suh et al.

(10) Patent No.: **US 6,947,112 B2**
(45) Date of Patent: **Sep. 20, 2005**

(54) **LIQUID CRYSTAL DISPLAY**

(75) Inventors: Dong Hae Suh, Daegu (KR); Young Il Park, Seoul (KR); Hee Cheol Kim, Seoul (KR); Hwan Su Shim, Kyongki-do (KR); Won Geon Lee, Seoul (KR)

(73) Assignee: Boe-Hydis Technology Co., Ltd., Kyongki-do (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 10/630,038

(22) Filed: Jul. 30, 2003

(65) **Prior Publication Data**

US 2004/0021817 A1 Feb. 5, 2004

(30) **Foreign Application Priority Data**

Aug. 1, 2002 (KR) 10-2002-0045641
Apr. 8, 2003 (KR) 10-2003-0021852

(51) Int. Cl.⁷ G02F 1/1335; G02F 1/337

(52) U.S. Cl. 349/117; 349/96; 349/113;
349/123; 349/128

(58) Field of Search 349/96, 99, 113,
349/117, 121, 23, 128

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,142,393 A * 8/1992 Okumura et al. 349/121

5,361,151 A * 11/1994 Sonehara et al. 349/98
5,490,003 A * 2/1996 Van Sprang 349/96
5,619,356 A * 4/1997 Kozo et al. 349/99
6,295,113 B1 * 9/2001 Yang 349/179
2002/0093620 A1 * 7/2002 Itou et al. 349/179

* cited by examiner

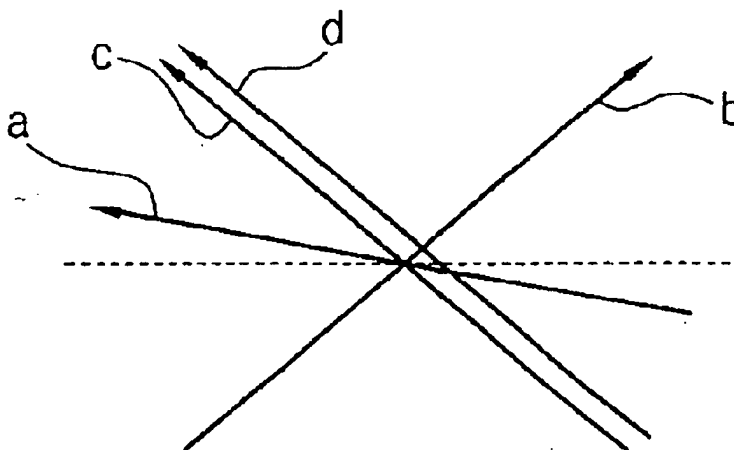
Primary Examiner—Tarifur R. Chowdhury

(74) Attorney, Agent, or Firm—Ladas & Parry LLP

(57) **ABSTRACT**

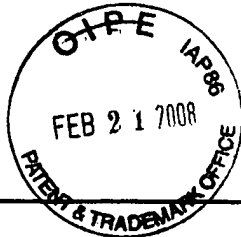
The present invention relates to a liquid crystal display, comprising a lower alignment film formed on a lower substrate; an upper alignment film formed on an upper substrate; a liquid crystal layer sandwiched between the lower and upper substrates; a phase compensation film adhered on the outer surface of the upper substrate and a polarizer adhered on the phase compensation film wherein the lower alignment film has an alignment angle of 10–20° with respect to a horizontal line, the upper alignment film has an alignment angle of 40 to 55° with respect to a horizontal line, the liquid crystal layer has a phase delay value ($d\Delta n$) of 0.24–0.27 μm , the phase compensation film has a phase compensation function of $\lambda/4$ and also has an optical axis making 140–146° with a horizontal line and the polarizer has an absorption axis making 120 to 122.5° with a horizontal line.

2 Claims, 7 Drawing Sheets



RECEIVED USPTO
Patent Publication

FEB 25 2008



Docket:

PATENT

COMBINED DECLARATION AND POWER OF ATTORNEY

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION OR CIP)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type: (check one applicable item below)

- ☒ original
☐ design
☐ supplemental

Note: If the Declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

- ☐ national stage of PCT

Note: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR CIP.

- ☐ divisional
☐ continuation
☐ continuation-in-part (CIP)

INVENTORSHIP IDENTIFICATION

WARNING: If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

LIQUID CRYSTAL DIPLSLAY

RECEIVED-USPTO
Patent Publication

FEB 25 2008

SPECIFICATION IDENTIFICATION

the specification of which: *(complete (a), (b) or (c))*

- ☒ (a) is attached hereto.
- ☐ (b) was filed on _____ as ☐ Serial No. _____ or
☐ Express Mail No. *(as Serial No. not yet known)* _____
and was amended on _____ *(if applicable)*.

Note: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the Declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental Declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

- ☐ (c) was described and claimed in PCT International Application No. _____
filed on _____ and as amended under PCT Article 19 on _____
(if any).

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

- ☐ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
- ☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

PRIORITY CLAIM (35 U.S.C. § 119(a)-(d))

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

RECEIVED-USPTO
Patent Publication

FEB 25 2003

(complete (d) or (e))

☐ (d) no such applications have been filed.

☒ (e) such applications have been filed as follows.

Note: Where item (c) is entered above and the international application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day/month/year)	PRIORITY CLAIMED UNDER 35 USC 119
Republic of Korea	2002-45641	01/08/2002	<input checked="" type="checkbox"/> YES NO <input type="checkbox"/>
Republic of Korea	2003-21853	08/04/2003	<input checked="" type="checkbox"/> YES NO <input type="checkbox"/>

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(35 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER	FILING DATE

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

*Note: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage or (2) a continuation, divisional, or continuation-in-part, then also complete **ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CIP OF PTO APPLICATION** for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.*

FEB 25 2003

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (*list name and registration number*).

Thomas F. Peterson, 24790; Richard J. Streit, 25765; Donald P. Reynolds, 26220; W. Dennis Drehkoff, 27193; Vangelis Economou, 32341; Brian W. Hameder, 45613; Valerie Neymeyer-Tynkov, Reg. 46956; Paul B. West, 18947; Joseph H. Handelman, 26179; Peter D. Galloway 27885; John Richards, 31503; Iain C. Baillie, 24090; Richard P. Berg, 28145

☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO:

Richard J. Streit
c/o Ladas & Parry
224 South Michigan Avenue
Suite 1200
Chicago, Illinois 60604

DIRECT TELEPHONE CALLS TO:

(*Name and telephone number*)

(312) 427-1300

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

Note: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents:

RECEIVED-USPTO
Patent Publication

Full name of sole or first inventor

Dong Hae

(Given Name)

SUH

(Middle Initial or Name)

SUH

(Family (or Last) Name)

FEB 25 2003

Inventor's signature

SUH Dong Hae

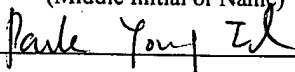
Date July 15, 2003

Country of Citizenship Republic of Korea

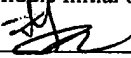
Residence Daegu

Post Office Address 539-1, Daemyoung 9-dong, Nam-gu, Daegu, Korea

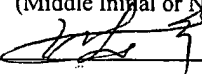
Full name of second joint inventor, if any

Young Il PARK
(Given Name) (Middle Initial or Name) (Family (or Last) Name)
Inventor's signature 
Date July 15, 2003 **Country of Citizenship** Republic of Korea
Residence Seoul
Post Office Address 401 Sanga Building, 103-195, Shillim 2-dong, Kwanak-gu, Seoul, Korea


Full name of third joint inventor, if any

Hee Cheol KIM
(Given Name) (Middle Initial or Name) (Family (or Last) Name)
Inventor's signature 
Date July 15, 2003 **Country of Citizenship** Republic of Korea
Residence Seoul
Post Office Address 131-7, Seongnae 2-dong, Kangdong-gu, Seoul, Korea

Full name of fourth joint inventor, if any

Hwan Su SHIM
(Given Name) (Middle Initial or Name) (Family (or Last) Name)
Inventor's signature 
Date July 15, 2003 **Country of Citizenship** Republic of Korea
Residence Kyeongki-do
Post Office Address 106-206, Hyundai Employee Apt., 441-1, Sadong-ri, Daewol-myon, Ich'on, Kyeongki-do, Korea

Full name of fifth joint inventor, if any

Won Geon LEE
(Given Name) (Middle Initial or Name) (Family (or Last) Name)
Inventor's signature 
Date July 15, 2003 **Country of Citizenship** Republic of Korea
Residence Seoul
Post Office Address 803-2108, Hyundai Apt., Kwangjang-dong, Kwangjin-gu, Seoul, Korea

FEB 25 2008



LADAS & PARRY
CHICAGO
UNITED STATES PATENT AND TRADEMARK OFFICE

2003 DEC -8 AM 10:58

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/630,038	07/30/2003	2871	1002	CU-3315 RJS	7	18	6

26530

LADAS & PARRY
224 SOUTH MICHIGAN AVENUE, SUITE 1200
CHICAGO, IL 60604

CONFIRMATION NO. 9453

CORRECTED FILING RECEIPT



OC000000011407401

Date Mailed: 12/03/2003

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Dong Hae Suh, Daegu, KOREA, REPUBLIC OF;
Young Il Park, Seoul, KOREA, REPUBLIC OF;
Hee Cheol Kim, Seoul, KOREA, REPUBLIC OF;
Hwan Su Shim, Kyoungki-do, KOREA, REPUBLIC OF;
Won Geon Lee, Seoul, KOREA, REPUBLIC OF;

Domestic Priority data as claimed by applicant

Foreign Applications

REPUBLIC OF KOREA 2002-45641 08/01/2002
REPUBLIC OF KOREA 2003-21853 04/08/2003

If Required, Foreign Filing License Granted: 10/24/2003

Projected Publication Date: 02/05/2004

Non-Publication Request: No

Early Publication Request: No

Title

RECEIVED-USPTO
Patent Publication

FEB 25 2008



별첨 사본은 아래 출원의 원본과 동일함을 증명함.

This is to certify that the following application annexed hereto is a true copy from the records of the Korean Intellectual Property Office.

출원번호 : 10-2002-0045641
Application Number

출원년월일 : 2002년 08월 01일
Date of Application
AUG 01, 2002

출원인 : 바이오 하이디스 테크놀로지 주식회사
Applicant(s)
BOE Hydys Technology Co., Ltd.



2003 년 05 월 29 일

RECEIVED-USPTO
Patent Publication

FEB 25 2008

특 허 청

COMMISSIONER

